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Forest Management

UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE



*Management Plans-Lassen
Forest Management Record*

May 4 1925

REPORT ON CRUISE OF CUT-OVER AREA
FRUIT GROWERS SUPPLY COMPANY'S SALE

4-3-22

Season 1924.

TRANSFERRED



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Management Plans - *Lassen*
Forest Management Record
F.G.S.Co. Sale 4-3-22

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May 4, 1925.

REPORT ON CRUISE OF CUT-OVER AREA
FRUIT GROWERS SUPPLY COMPANY'S SALE
4-3-22

Season 1924

A. E. Wieslander
A. E. WIESLANDER
Forest Examiner

Approved:

W. G. DURBIN
Forest Supervisor

(Date)

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Introduction.

This report, on the first cut-over cruise on this sale, should be of interest in showing to what extent the provisions of the Management Plan have been carried out in regard to marking practice, etc.

Method of Cruise.

The same method, as explained in the "Report on Cruise of Cut-Over Area, Lassen Lumber & Box Company's Sale 11-16-17, Season of 1924, by A. E. Wieslander, under date of March 21, 1925", was used in the cruise on this sale.

Area Cruised.

A total of 85.2 acres of strip was taken in sections 12, 13, and 14, T. 31 N., R. 9 E. This locality is not typical of the sale area as a whole, which is predominately site IV, Yellow Pine type, but it is typical of site III, Yellow Pine-Fir type, in which type and site practically all cutting has been confined to date. Some areas cruised last year were eliminated from consideration as not being typical of this site and type.

Results of the Cruise.

The following comparison between the cut-over areas on the Lassen Lumber & Box Company's Sale and this sale is given as the best way of bringing out conditions of the cut-over land.

COMPARISON OF CUT-OVER AREA LASSEN LUMBER & BOX CO. SALE AND FRUIT GROWERS SUPPLY CO. SALE

.....

	F.G.S.CO. SALE	L.L. & B.CO. SALE
1. Original Stand	Type - Yellow Pine, Fir Site III Stand per acre 34,210 55% pine, 45% fir.	Type - Pure Yellow Pine. Site IV Stand per acre 16,810 100% pine.
2. Stand left in marking:	Reproduction 0-3" D.B.H. No. of trees per acre--- 449. 11% pine, 89% fir. Area covered, 20%. (Stocking) Poles 4-11" D.B.H. No. of trees per acre--- 19.07.	Reproduction 0-3" D.B.H. No. of trees per acre--- 714 Area covered, 36%. (Stocking) Poles 4-11" D.B.H. No. of trees per acre--- 11.94.

	F.G.S.CO. SALE		L.L. & B. CO. SALE
2. Stand left	14% pine, 86% fir.	:	
in marking:	<u>Merchantable Timber</u>	:	<u>Merchantable Timber</u>
(cont'd)	Stand per acre, 8,610	:	Stand per acre, 2,450
	ft. B.M.	:	ft. B.M.
	% of original stand, 25	:	% of original stand, 15.
	54% pine, 46% fir.	:	
3. Logging	79% Big Wheels	:	95% Big Wheels
Methods	(horse drawn)	:	(horse drawn)
Area log-	21% Boom Donkeys	:	5% Jammer Skidding
ged		:	
4. Logging	<u>Big Wheels</u>	:	<u>Big Wheels</u> including
damage to:	Stem injuries to 7	:	area jammer skidded;
merchant-	trees in 100.	:	Stem injuries to 2
able stand:	<u>Donkeys</u>	:	trees in 100.
	Stem injuries to 26	:	
	trees in 100.	:	
5. Brush	<u>Trees Killed</u>	:	<u>Trees Killed</u>
burning	0-6" - 15 in 100	:	0-6" - 13 in 100
damage	6-3" - 4 " 100	:	6-3" - 10 " 100
	4-11" - 7 " 100	:	4-11" - 1.8 " 100
	12" - 0.5 " 100	:	12" - 0.1 " 100
	<u>Catfaced</u>	:	<u>Catfaced</u>
	4-11" 1.2 " 100	:	None
	12" + 3.3 " 100	:	
	(all fir)	:	
6. Character:	<u>Diseased</u>	:	<u>Diseased</u>
of marking:	4.3 trees in 100	:	0.2 trees in 100
	2.4% of volume	:	0.1% of volume
	<u>Defective</u>	:	<u>Defective</u>
	1.9 trees in 100	:	0.5 trees in 100
	1.3% of volume	:	0.0% of volume
	<u>Intermediate & Suppres-</u>	:	<u>Intermediate & Suppres-</u>
	<u>ed</u>	:	<u>ed</u>
	12.2 trees in 100	:	1.5 trees in 100
	1.8% of volume	:	0.2% of volume
7. Composi-	<u>Poles</u>	:	<u>Poles</u>
tion of	18% pine	:	Pure pine
future	82% fir	:	
stand bas-	<u>Merchantable Stand</u>	:	<u>Merchantable Stand</u>
ed on the:	35% pine	:	Pure pine
number of:	65% fir	:	
Isolated,	<u>Reproduction</u>	:	
Dominant,	89% fir	:	
and Co-		:	
dominant		:	
trees only:		:	

F.E.S.Co. Sale

L.L. & B.Co. Sale

8. Distribut-	: <u>Reproduction</u>	: <u>Reproduction</u>
ion and	: 2613 trees per acre on:	: 2399 trees per acre on
density of	: 17% of area. 48 trees	: 26% of area. 139 trees
reproduct-	: per acre on 83% of area:	: per acre on 74% of area.
ion.	: Average for entire area:	: Average for entire area
	: 470 per acre. Stocking:	: 714 per acre. Stocking
	: on basis of 6.5 x 6.5	: on basis of 6.5 x 6.5
	: spacing 20%.	: spacing 36%.
9. Distribut-	: <u>Poles</u>	: <u>Poles</u>
ion and	: <u>Pine</u>	: <u>Pine</u>
density of	: 7% Isolated	: 10% Isolated
poles is	: 47% Dominant	: 57% Dominant
reserved	: 19% Codominant	: 19% Codominant
stand bas-	: 73% Total	: 86% Total
ed on num-	: <u>Fir</u>	:
ber of	: 3% Isolated	:
trees.	: 40% Dominant	:
	: 21% Codominant	:
	: 64% Total	:
	: <u>Merchantable Timber</u>	: <u>Merchantable Timber</u>
	: <u>Pine</u>	: <u>Pine</u>
	: 43% Isolated	: 36% Isolated
	: 44% Dominant	: 58% Dominant
	: 8% Codominant	: 5% Codominant
	: 95% Total	: 99% Total
	: <u>Fir</u>	:
	: 10% Isolated	:
	: 57% Dominant	:
	: 17% Codominant	:
	: 84% Total	:
10. Losses sub-	: Following losses out of:	: Following losses out of
sequent to	: a total of 4309 YP trees:	: a total of 7573 trees:
logging	: and 11,920 WF trees;	:
	: Lightning - None	: Lightning - 6
	: Insects - None	: Insects - 3
	: Windfall - YP 5	: Windfall - 5
	: Fir 82	:

Note: Small amount of lodgepole pine on F. E. S. Co. Sale has been omitted in this comparison.

.....

Comments on Comparison.

1. Original Stand.

The original stand on sections 12, 13, and 14, is much heavier than the average stand on the sale area as a whole, which will closely approximate that on the Lassen

Lumber & Box Company's Sale.

2. Stand Left.

The Management Plan contemplates a cutting of 80% of the stand on the area as a whole, but that on certain areas, as little as 70% of the stand will be taken in order to compensate for areas where it will be necessary to cut 85% of the stand.

A reserved stand of 8,610 feet B.M., per acre, which is 25% of the original stand, clearly indicates that the marking is in accordance with the Management Plan.

That cutting in fir has been approximately as heavy as in pine, is shown by the almost unchanged proportion of fir in both the original and reserved stands.

3. Logging Methods Employed.

The area logged by boom donkeys was adapted for tractor logging and could have been logged by this method had such equipment been available and required.

4. Logging Damage.

The heavier cut per acre is the cause of the greater stem injury in big wheel logging on the Fruit Growers Sale. While some of the stem injury is caused directly by the wheels, the most of it is the result of falling in heavy stands. On the Lassen Sale, where the stand is open, there is little injury to reserved trees in falling.

Assuming that stem injuries to 6 trees in 100 are due to falling, which must be approximately correct in view of 7 such injuries per 100 in wheel logging, one tree out of every five has been hit in donkey skidding. The area logged has even slopes that are not steep so the minimum amount of damage for the method employed should result. Not knowing how the damage compares with donkey logging elsewhere, we are not prepared to say whether it is excessive or not. However, we hope, by more intensive supervision, to reduce this average on the relatively small areas on this sale that will have to be logged by donkeys in the future.

5. Brush Burning Damage.

The greater damage to poles and merchantable timber on this sale, is not the result of less care in burning, but largely to the presence of punky fir logs which hold fire indefinitely and carry it into groups of poles or merchantable timber, resulting in some of these trees being cat-faced or killed. The damage shown for this class of trees is effective damage, as defective and suppressed trees were not considered.

One would naturally expect a greater difference in the amount of damage to reproduction between the two sales than is shown, because of the much heavier stand on the Fruit

Growers Sale. That this is not the case, is the result of two factors on the Fruit Growers Sale:- (1), more reproduction swamped out in logging, and (2), better placing of brush piles. Brush piles were placed better because piling was done after the logs were taken out.

6. Character of Marking.

The marking does not show up quite so well on this sale.

The diseased, defective, and thinning trees, (intermediate and suppressed), are practically all fir and confined largely to the lower diameter classes where volume is negligible. These trees are easily overlooked in the dense stands unless marking is slowed up considerably. Thinnings were intentionally slighted in donkey areas to reduce damage, and in wheel areas because of a feeling that excessive windfall would result.

In the proposed modification of marking practice in fir, these trees, as well as many additional ones of the same kind, would be left.

7. Composition of Future Stand.

It is evident that we must be reconciled to a much greater proportion of fir in the second cut in this type and site.

8. Distribution and Density of Reproduction.

The density of stocking of reproduction on the Fruit Growers Sale, prior to logging, was probably greater than that in the Lassen Lumber & Box Company's Sale. The much lower stocking, shown after logging on the Fruit Growers Sale, is the result of the greater amount of swamping required in heavy stands.

The distribution of reproduction ^{on} of the Fruit Growers Sale is not as good as on the Lassen. This is also due to the difference in amount of swamping required between open and dense stands.

9. Distribution and Density of Poles and Merchantable Timber.

As on the Lassen Lumber & Box Company's Sale, the distribution of pine on this sale is excellent.

Considering the tolerance of fir, its distribution is also good, as the suppressed and intermediate trees represent less than 2% of the volume.

It is indicated that the fir poles occur largely in crowded groups.

10. Losses Subsequent to Logging.

Windfall in fir appears to be the only serious source of loss on this site and type. Practically all of the

windfall shown occurred in the spring of 1923. Scarcely none occurred the following spring, but from observations in sections 12, 13, and 14 this spring, it is evident that the windfall loss this past winter is as great if not greater than in 1923.

APPENDIX

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Land District. Mag. Declin.

Area

Acres

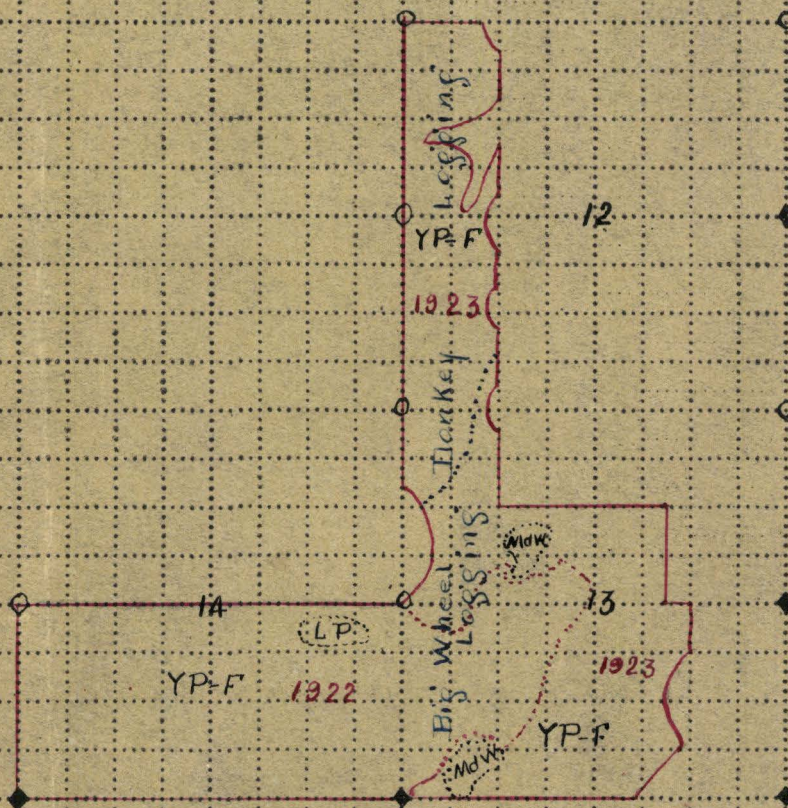
Secs. 12, 13, & 14

T. 31 N. R. 9 E

Mer. Scale 2 inches = 1 mile

(Case designation.)

(Subdivision and section.)



LEGEND

Boundary of area cruised
 1923
 Cutting boundary - year cut
 79% Big Wheel Logging 21% Donkey Logging

Field work by _____, Date _____, Platted by _____

Remarks: _____

Approved _____, 19____

(Approving officer.)

8-3406

TABLES NO. 1-A, 1-B, 1-C, & 1-D.
REPRODUCTION CONDITIONS

YELLOW PINE - FIR TYPE SITE III.

BASIS 88 1/10 ACRE PLOTS.

TABLE NO. 1-A. DISTRIBUTION OF REPRODUCTION.

AREA SEGREGATION	NUMBER OF TREES 0-3" D.B.H.		AREA COVERED	
	TOTAL	PER ACRE	ACRES	PERCENT
Fully Stocked	3830	2613	1.466	17
Under Stocked	309	42	7.334	83
Total Area	4139	470	8.800	100

TABLE NO. 1-B. DENSITY OF STOCKING

AREA SEGREGATION	NUMBER OF TREES 0-3" D.B.H.		AREA COVERED	
	TOTAL	PER ACRE	ACRES	PERCENT
Stocked	4139	2332	1.775	20
Not Stocked	0	0	7.025	80
Total Area	4139	470	8.800	100

TABLE NO. 1-C. SPECIES REPRESENTED.

	NUMBER OF TREES PER ACRE						TOTAL	
	YELLOW PINE °		WHITE FIR °°					
	NO.	%	NO.	%	NO.	%	NO.	%
0-6	41	12	297	84	352			100
6-3	10	8	102	87	118			100
Total	51	11	398	85	470			100

TABLE NO. 1-D. AVERAGE HEIGHT OF REPRODUCTION.

CLASS	YELLOW PINE	WHITE FIR
0-6'	2.5 feet	2.6 feet
6'-3"	7.4 "	9.8 "

°Includes small amount of Sugar Pine.
°°Includes small amount of Incense Cedar
and Red Fir.

TABLE NO. 2-A. HEALTH OF RESERVED STAND.

YELLOW PINE - FIR TYPE. SITE III. BASIS 85.2 ACRES OF STRIP

NUMBER OF TREES PER ACRE									
D.B.H.	S & H	S I	B T	Cf.	Cf.	DIS.	DEF.	TOTAL	TREES ON
		(LOGGING)	(LOGGING)	M	B		M	STAND	WHICH NO
									INCREMEN
									CAN BE
									EXPECTED
4	.79	---	.01	---	---	---	---	.80	.01
6	.67	.04	.01	.01	---	---	---	.73	.03
8	.43	.01	---	.01	---	.01	---	.46	.01
10	.63	.04	.01	.02	---	.01	.01	.72	.01
Total	2.52	.09	.03	.04	---	.02	.01	2.71	.06
Per 100	93.	3.3	1.1	1.5	---	.7	.4	100%	2.2%
12	.47	.04	.02	.04	---	.01	---	.58	.03
14	.56	---	.01	---	---	.02	.01	.60	---
16	.27	.02	.01	.05	---	---	.01	.36	.03
18	.26	.04	.04	---	---	---	---	.34	.01
20	.24	.01	---	.02	---	.02	---	.29	.02
22	.28	.02	---	.02	---	---	---	.32	.00
24	.16	.05	.01	.04	---	.01	---	.27	.00
26	.31	.02	---	.06	---	---	---	.39	.01
28	.26	.02	---	.02	---	---	---	.30	.00
30	.32	.01	---	.01	---	.01	---	.35	.01
32	.19	.02	.01	.04	---	---	---	.26	.00
34	.15	.02	---	.06	---	.01	---	.24	.01
36	.22	.01	---	.04	---	---	---	.27	.00
38	.16	---	---	.02	---	---	---	.18	.00
40	.09	---	---	.01	---	---	---	.10	.00
Over	.11	---	---	.01	---	---	---	.12	.00
Total	4.05	.28	.10	.44	---	.08	.02	4.97	.12
Per 100	81.5	5.6	2.0	8.9	---	1.6	.4	100%	2.4%

TABLE NO. 2-B. HEALTH OF RESERVED STAND.

SPECIES WHITE FIR. SITE III YELLOW PINE - FIR TYPE.

BASIS 85.2 ACRES STRIP.

NUMBER OF TREES PER ACRE										
D.B.H.	S & H	S I	B T	Cf.	Cf.	DIS.	DEF.	TOTAL	INCREMENT	NO.
		(LOGGING)	(LOGGING)	M	B		M	STAND	TREES	
4	5.99	.09	.06	---	.01	.04	---	6.19	.18	
6	3.76	.21	.11	---	.07	.02	.01	4.18	.36	
8	2.41	.18	.11	---	.05	.13	.02	2.90	.48	
10	2.37	.22	.20	---	.11	.20	.01	3.09	.65	
Total	14.53	.70	.48		.24	.39	.04	16.36	1.67	
Per 100	89.0	4.3	2.9		1.5	2.4	.2	100.0	10.2	
12	2.44	.35	.19	---	.11	.20	---	3.28	.78	
14	1.87	.22	.19	---	.13	.13	.06	2.60	.71	
16	1.07	.21	.18	---	.08	.14	.05	1.72	.63	
18	1.08	.14	.06	---	.08	.05	.07	1.48	.35	
20	.92	.16	.02	---	.05	.08	.04	1.27	.36	
22	.74	.12	.05	---	.04	.01	.04	1.00	.26	
24	.56	.08	.01	---	.04	.06	.04	.79	.21	
26	.35	.07	---	---	.04	.01	---	.47	.12	
28	.39	.07	---	---	.02	.01	---	.49	.10	
30	.24	.01	---	---	.02	.02	.02	.31	.08	
32	.15	.04	---	---	.01	.01	---	.21	.05	
34	.01	---	---	---	---	---	---	.01	.00	
36	.07	.01	---	---	---	---	.01	.09	.02	
38	.01	.01	---	---	---	---	.01	.03	.02	
40	.01	---	---	---	---	---	---	.01	.00	
Over	.03	---	---	---	---	---	---	.03	.00	
Total	9.94	1.49	.70	---	.62	.72	.34	13.79	3.69	
Per 100	72.0	10.8	5.1	---	4.5	5.2	2.4	100	26.8	

* It was assumed that in practically all diseased and injured fir, decay would offset increment, so this column includes trees of this kind which were not classified according to crown classes.

TABLE NO. 3-A. PROBABLE CROWN CLASSIFICATION OF RESERVED
STAND AT THE TIME OF NEXT CUT (70 YEARS).

SPECIES YELLOW PINE. SITE III YELLOW PINE - FIR TYPE.

BASIS 85.2 ACRES OF STRIP.

D.B.H.	NUMBER OF TREES PER ACRE						TOTAL
	ISOLATED:	DOMINANT:	CO- DOMINANT:	INTER- MEDIATE:	SUP- PRESSED:		
4	.02	.43	.15	.13	.06		.79
6	.02	.28	.15	.19	.06		.70
8	.05	.18	.09	.11	.02		.45
10	.10	.35	.12	.09	.05		.71
Total	.19	1.24	.51	.52	.19		2.65
%	7.2	46.8	19.2	19.6	7.2		100
12	.05	.28	.13	.05	.04		.55
14	.16	.28	.06	.06	.04		.60
16	.13	.12	.06	.02	---		.33
18	.08	.14	.05	.02	.04		.33
20	.05	.19	.02	---	.01		.27
22	.11	.20	.01	---	---		.32
24	.15	.08	.04	---	---		.27
26	.15	.22	.01	---	---		.38
28	.13	.17	---	---	---		.30
30	.21	.13	---	---	---		.34
32	.18	.08	---	---	---		.26
34	.14	.09	---	---	---		.23
36	.21	.06	---	---	---		.27
38	.16	.02	---	---	---		.18
40	.08	.02	---	---	---		.10
Over	.08	.04	---	---	---		.12
Total	2.07	2.12	.38	.15	.13		4.85
%	42.7	43.7	7.8	3.1	2.7		100

TABLE NO. 3-B. PROBABLE CROWN CLASSIFICATION OF RESERVED
STAND AT THE TIME OF NEXT CUT (70 YEARS).

SPECIES WHITE FIR. SITE III YELLOW PINE - FIR TYPE

BASIS 85.2 ACRES OF STRIP.

D.B.H.	NUMBER OF TREES PER ACRE						TOTAL
	ISOLATED:	DOMINANT:	CO- DOMINANT:	INTER- MEDIATE:	SUP- PRESSED:		
4	.11	2.34	1.29	1.14	1.13	6.01	
6	.11	1.35	.80	.76	.80	3.82	
8	.11	1.04	.43	.24	.60	2.42	
10	.12	1.08	.50	.36	.38	2.44	
Total	.45	5.81	3.02	2.50	2.91	14.69	
%	3.1	39.6	20.6	17.0	19.7	100	
12	.09	.87	.59	.48	.47	2.50	
14	.12	.95	.48	.20	.14	1.89	
16	.05	.72	.18	.12	.02	1.09	
18	.06	.78	.20	.05	.04	1.13	
20	.09	.64	.14	.04	---	.91	
22	.11	.55	.07	.01	---	.74	
24	.11	.42	.05	---	---	.58	
26	.12	.22	.01	---	---	.35	
28	.11	.26	.02	---	---	.39	
30	.07	.16	---	---	---	.23	
32	.05	.11	---	---	---	.16	
34	---	.01	---	---	---	.01	
36	.02	.05	---	---	---	.07	
38	---	.01	---	---	---	.01	
40	.01	---	---	---	---	.01	
Over	.02	.01	---	---	---	.03	
Total	1.03	5.76	1.74	.90	.67	10.10	
%	10.2	57.1	17.2	8.9	6.6	100	

TABLE NO. 4. CHARACTER OF MARKING.

SPECIES YELLOW PINE AND WHITE FIR. SITE III.
BASIS 85.2 ACRES OF STRIP.

	:DIS:	:DEF:	:TOTAL STAND:	:ISO-:DOMI-:CO-:INTER-:SUP-:					
	:DIS:	:DEF:	:TOTAL STAND:	:LAT-:NANT:DOMI-:MEDIATE:PRES-:TOTAL					
D.B.H.	:	:	LEFT	:ED:NANT:	:	:	:	SED	:
INCHES	%	%	NO.OF TREES	%	%	%	%	%	NO. OF
	:	:	PER ACRE	:	:	:	:	:	TREES
	:	:	:	:	:	:	:	:	PER ACRE
12	5.4	---	3.86	4.6	37.7	23.6	16.7	17.4	3.05
14	4.7	2.2	3.20	11.3	49.8	21.9	10.5	6.5	2.47
16	6.7	2.9	2.08	12.7	59.1	16.9	9.9	1.4	1.42
18	2.8	3.8	1.82	9.6	63.0	17.1	4.8	5.5	1.46
20	6.4	2.6	1.56	11.9	70.3	13.5	3.4	0.9	1.18
22	0.8	3.0	1.32	21.5	70.1	7.5	0.9	---	1.07
24	6.6	3.8	1.06	30.6	58.8	10.6	---	---	.85
26	1.2	---	.86	37.0	60.3	2.7	---	---	.73
28	1.3	---	.78	35.2	62.0	2.8	---	---	.71
30	4.5	3.0	.66	49.2	50.8	---	---	---	.57
32	2.1	---	.47	54.8	45.2	---	---	---	.42
34	4.0	---	.25	58.3	41.7	---	---	---	.24
36	---	2.8	.36	67.6	32.4	---	---	---	.34
38	---	4.8	.21	84.2	15.8	---	---	---	.19
40	---	---	.11	81.8	18.2	---	---	---	.11
Over	---	---	.15	64.3	35.7	---	---	---	.14
TOTAL	4.3	1.9	18.75	20.8	52.8	14.2	7.0	5.2	14.95
Total	:	:	Bd. Ft.	:	:	:	:	:	Bd. Ft.
by	2.4	1.3	8610	47.7	46.2	4.3	1.1	0.7	7260
Volume	:	:	:	:	:	:	:	:	:

TABLE NO. 5. DAMAGE IN LOGGING

SECTIONS 12, 13 and 14. FRUIT GROWERS SUPPLY CO. SALE

LOGGING METHOD	SPEC-IES	SIZE IN HEIGHT OR D.B.H.	NO. OF TREES OR VOL. IN BD. FT.	TOTAL STAND LEFT	STEM INJURIES		BROKEN TOPS	
					NO.	%	NO.	%
WHEEL LOGGING HORSE-DRAWN	YP	4-11" 12"+ 12"+	NO. NO. VOL.	97 351 335,700	2 5 3,770	2.1 1.4 1.1	0 8 1040	0.0 2.3 0.3
BASIS 66.8 ACRES STRIP SECTS. 13 & 14	WF	4-11" 12"+ 12"+	NO. NO. VOL.	1,244 996 262,343	30 88 23,220	2.4 8.8 8.9	36 55 6840	2.9 5.5 0.3
T 31 N R 9 E	TOTAL	4-11" 12"+ 12"+	NO. NO. VOL.	1,341 1,347 598,043	32 93 26,990	2.4 6.9 4.5	36 63 7880	2.7 4.7 1.3
BOOM DONKEY LOGGING	YP	4-11" 12"+ 12"+	NO. NO. VOL.	42 80 61,288	3 20 15,080	7.1 25.0 24.6	2 2 1080	4.8 2.5 1.8
BASIS 18.4 ACRES STRIP SECTS. 12 & 13	WF	4-11" 12"+ 12"+	NO. NO. VOL.	266 196 48,280	30 40 13,160	11.3 20.4 27.2	4 5 470	1.5 2.5 1.0
T 31 N R 9 E	TOTAL	4-11" 12"+ 12"+	NO. NO. VOL.	310 276 109,568	33 60 28,240	10.6 21.7 25.8	6 7 1550	1.9 2.5 1.4

TABLE NO. 6. DAMAGE IN BRUSH BURNING

BASIS 0-3"
4"+8.8 ACRES PLOTS
85.2 ACRES OF STRIP

SPEC- IES	SIZE IN HEIGHT OR D. B. H.	NO. OF TREES OR VOL. IN BD. FT.	TOTAL STAND LEFT	CAT FACED		KILLED	
				NO. OR VOL.	%	NO. OR VOL	
YP	0-6'	NO.	441	-	-	81	18
	6-3"	NO.	87	-	-	0	0
	4-11"	NO.	241	-	-	8	3.3
	12"+	NO.	431	-	-	1	0.2
	12"+	VOL.	396,988	-	-	30	0.0+
WF	0-6'	NO.	3,050	-	-	442	14
	6-3"	NO.	951	-	-	42	4
	4-11"	NO.	1,510	21	1.4	115	7.6
	12"+	NO.	1,192	53	4.4	7	0.6
	12"+	VOL.	310,623	15,270	4.9	1030	0.3
TOTAL	0-6'	VOL.	3,491	-	-	523	15
	6-3"	NO.	1,038	-	-	42	4
	4-11"	NO.	1,751	21	1.2	123	7.0
	12"+	NO.	1,623	53	3.3	8	0.5
	12"+	VOL.	707,611	15,270	2.2	1060	0.1

TABLE NO. 7. WINDFALL°LOSSES SINCE LOGGING
Basis 100% Cruise Of Down Trees And 10% Cruise Of Living Trees.
NO. OF TREES

	WINDFALL		TOTAL RESERVED STAND	
	YP	WF	YP	WF
12	3	4	483	2,824
14	2	11	552	2,251
16	-	8	311	1,488
18	-	12	290	1,282
20	-	10	250	1,090
22	-	9	280	849
24	-	10	230	680
26	-	4	330	404
28	-	5	260	425
30	-	4	301	273
32	-	3	230	193
34	-	1	210	11
36	-	1	231	80
38	-	-	160	30
40	-	-	90	10
Over	-	-	101	30
TOTAL	5	82	4309	11,920

°Practically all windfall occurred on area logged in 1922 as there was practically no loss from this source during winter 1923-24.

TABLE NO. 8. PERCENT CUT AND PERCENT OF
FIR IN THE CUT AND RESERVED
STAND.

	BOARD FEET PER ACRE	%	PERCENT FIR
CUT	25,600°	75	45
LEFT	8,610°°	25	46
TOTAL:	34,210	100	45

TABLE NO. 9. PERCENT OF FIR IN FUTURE
STAND
BASIS - 85.2 ACRES OF STRIP

	REPRODUCTION 0-3" D.B.H.	POLES 4-11" D.B.H ; ISOLATED, DOMINANT AND CO-DOMINANT TREES	MERCH. STAND 12" D.B.H. AND OVER. ISOLATED, DOMINANT & CO-DOMINANT TREES
NO. OF TREES PER ACRE ----	449	11.22	13.10
% FIR ---	89	82	65

°Average for area logged 1922 and 1923, sections 12, 13 and 14, T 31 N, R 9 E, basis log scale.

°°Total stand left 85.2 acres strip, sections 12, 13 and 14, T 31 N, R 9 E. Includes all trees left in marking.